

Please type a plus sign (+) inside this box ☐

PTO/SB/05 (11-00)  
Approved for use through 10/31/2002, OMB 0651-0032  
Patent and Trademark office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

<b>UTILITY PATENT APPLICATION TRANSMITTAL</b>  (Only for new nonprovisional application under 37 C.F.R. § 1.53(b))	Attorney Docket No.	E-1825 CJP
	First Inventor or Application Identifier	Craig et al
	Title	Method and Apparatus for the Detection of Hydrogenous Materials
	Express Mail Label No.	EE797446645US

11002 U.S. PTO  
09/771064  
01/26/01

<b>APPLICATION ELEMENTS</b> See MPEP chapter 600 concerning utility patent application contents	ADDRESS TO: Assistant Commissioner for Patents Box Patent Application Washington, DC 20231
----------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------

1. ☒ \*Fee Transmittal Form (e.g. PTO/SB/17)  
 (Submit an original and a duplicate for fee processing)
2. ☒ Applicant claims small entity status.
3. ☒ Specification [Total Pages 32 ]
  - (preferred arrangement set forth below)
  - Descriptive title of the Invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to Microfiche Appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 24 ]
5. Oath or Declaration [Total Pages 3 ]
  - a. ☒ Newly executed (original or copy)
  - b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d))
  - i. ☐ **DELETION OF INVENTOR(S)**  
 Signed statement attached deleting inventor(s) named in prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76
7. ☐ CD-ROM or CD-R in duplicate, large table or Program (Appendix)
8. ☐ Nucleotide and/or Amino Acid Sequence Submission  
 (if applicable, all necessary)
- a. ☐ Computer Readable Form (CRF)
- b. Specification Sequence Listing on:
  - i. ☐ CD-ROM of CD-R (2 copies); or
  - ii. ☐ paper
- c. ☐ Statements verifying identity of above copies

**ACCOMPANYING APPLICATION PARTS**

9. ☒ Assignment Papers (cover sheet & document(s))
10. ☐ 37 C.F.R. § 3.73(b) Statement of Attorney (when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure Statement (IDS)/PTO-1449
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503)  
 (Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
16. ☐ Request and Certification under 35 U.S.C. 122(b)(2)(B)(i).  
 Applicant must attach form PTO/SB/35 or its equivalent
17. ☐ Other:

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

☐ Continuation    ☐ Divisional    ☒ Continuation-in-part (CIP)    of prior application No. 09/561,830  
 Prior application information: Examiner:    Group/Art Unit: 3641

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

**19. CORRESPONDENCE ADDRESS**

☐ Customer Number or Bar Code Label    (Insert Customer No. or Attach bar code label here)    or    ☒ Correspondence address below

Name	Stephen R. May				
Address	Intellectual Property Services, Battelle Memorial Institute, Pacific Northwest Division, P.O. Box 999				
City	Richland	State	WA	Zip Code	99352
Country	USA	Telephone	(509) 375-2387	Fax	(509) 375-4487

Name (Print/Type)	Stephen R. May	Registration No. (Attorney/Agent)	29,255
Signature	<i>Stephen R. May</i>	Date	Jan 26, 2001

SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, and DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL For FY 2001	
Patent fees are subject to annual revision	
TOTAL AMOUNT OF PAYMENT	(\$)
	391.00

Complete If Known	
Application Number	not yet assigned
Filing Date	herewith
First Named Inventor	R.A. Craig et al.
Examiner Name	not yet assigned
Group/Art Unit	not yet assigned
Attorney Docket No.	E-1825 CIP

METHOD OF PAYMENT (check one)	FEE CALCULATION (continued)																																																																																																																																																																																								
<p>1 <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to</p> <p>Deposit Account Number: 02-1275</p> <p>Deposit Account Name: Battelle Memorial Institute - PND</p> <p><input checked="" type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR §§ 1.16 and 1.17</p> <p><input checked="" type="checkbox"/> Applicant claims small entity status</p> <p>2 Payment Enclosed <input type="checkbox"/> check <input type="checkbox"/> Money Order <input type="checkbox"/> Other</p>	<p>3 ADDITIONAL FEES</p> <table border="1"><thead><tr><th>Large Entity Fee</th><th>Small Entity Fee</th><th>Fee Description</th><th>Fee Paid</th></tr></thead><tbody><tr><td>105</td><td>130</td><td>205</td><td>65</td><td>Surcharge- late filing fee or oath</td><td></td></tr><tr><td>127</td><td>50</td><td>227</td><td>25</td><td>Surcharge- late provisional filing fee or cover sheet</td><td></td></tr><tr><td>139</td><td>130</td><td>139</td><td>130</td><td>Non-English specification</td><td></td></tr><tr><td>147</td><td>2,520</td><td>147</td><td>2,520</td><td>For filing a request for reexamination</td><td></td></tr><tr><td>112</td><td>920*</td><td>112</td><td>920*</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr><tr><td>113</td><td>1,840*</td><td>113</td><td>1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr><tr><td>115</td><td>110</td><td>215</td><td>55</td><td>Extension for reply within first month</td><td></td></tr><tr><td>116</td><td>390</td><td>216</td><td>195</td><td>Extension for reply within second month</td><td></td></tr><tr><td>117</td><td>890</td><td>217</td><td>445</td><td>Extension for reply within third month</td><td></td></tr><tr><td>118</td><td>1,390</td><td>218</td><td>695</td><td>Extension for reply within fourth month</td><td></td></tr><tr><td>128</td><td>1,890</td><td>228</td><td>945</td><td>Extension for reply within fifth month</td><td></td></tr><tr><td>119</td><td>310</td><td>219</td><td>155</td><td>Notice of Appeal</td><td></td></tr><tr><td>120</td><td>310</td><td>220</td><td>155</td><td>Filing a brief in support of an appeal</td><td></td></tr><tr><td>121</td><td>270</td><td>221</td><td>135</td><td>Requesting for oral hearing</td><td></td></tr><tr><td>138</td><td>1,510</td><td>138</td><td>1,510</td><td>Petition to institute a public use proceeding</td><td></td></tr><tr><td>140</td><td>110</td><td>240</td><td>55</td><td>Petition to revive - unavoidable</td><td></td></tr><tr><td>141</td><td>1,240</td><td>241</td><td>620</td><td>Petition to revive - unintentional</td><td></td></tr><tr><td>142</td><td>1,240</td><td>242</td><td>620</td><td>Utility issue fee (or reissue)</td><td></td></tr><tr><td>143</td><td>440</td><td>243</td><td>220</td><td>Design issue fee</td><td></td></tr><tr><td>144</td><td>600</td><td>224</td><td>300</td><td>Plant issue fee</td><td></td></tr><tr><td>122</td><td>130</td><td>122</td><td>130</td><td>Petitions to the Commissioner</td><td></td></tr><tr><td>123</td><td>50</td><td>123</td><td>50</td><td>Petitions related to provisional applications</td><td></td></tr><tr><td>126</td><td>240</td><td>126</td><td>240</td><td>Submission of Information Disclosure Stmt</td><td></td></tr><tr><td>581</td><td>40</td><td>581</td><td>40</td><td>Recording each patent assignment per property (times number of properties)</td><td></td></tr><tr><td>146</td><td>710</td><td>246</td><td>355</td><td>Filing a submission after final rejection (37 CFR § 1.129(a))</td><td></td></tr><tr><td>149</td><td>710</td><td>249</td><td>355</td><td>For each additional invention to be examined (37 CFR § 1.129(b))</td><td></td></tr><tr><td>179</td><td>710</td><td>279</td><td>355</td><td>Request for Continued Examination (RCE)</td><td></td></tr><tr><td colspan="5">Other fee (specify)</td><td></td></tr><tr><td colspan="5">*Reduced by Basic Filing Fee Paid</td><td></td></tr><tr><td colspan="5">SUBTOTAL (3)</td><td>(\$)</td></tr></tbody></table>	Large Entity Fee	Small Entity Fee	Fee Description	Fee Paid	105	130	205	65	Surcharge- late filing fee or oath		127	50	227	25	Surcharge- late provisional filing fee or cover sheet		139	130	139	130	Non-English specification		147	2,520	147	2,520	For filing a request for reexamination		112	920*	112	920*	Requesting publication of SIR prior to Examiner action		113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action		115	110	215	55	Extension for reply within first month		116	390	216	195	Extension for reply within second month		117	890	217	445	Extension for reply within third month		118	1,390	218	695	Extension for reply within fourth month		128	1,890	228	945	Extension for reply within fifth month		119	310	219	155	Notice of Appeal		120	310	220	155	Filing a brief in support of an appeal		121	270	221	135	Requesting for oral hearing		138	1,510	138	1,510	Petition to institute a public use proceeding		140	110	240	55	Petition to revive - unavoidable		141	1,240	241	620	Petition to revive - unintentional		142	1,240	242	620	Utility issue fee (or reissue)		143	440	243	220	Design issue fee		144	600	224	300	Plant issue fee		122	130	122	130	Petitions to the Commissioner		123	50	123	50	Petitions related to provisional applications		126	240	126	240	Submission of Information Disclosure Stmt		581	40	581	40	Recording each patent assignment per property (times number of properties)		146	710	246	355	Filing a submission after final rejection (37 CFR § 1.129(a))		149	710	249	355	For each additional invention to be examined (37 CFR § 1.129(b))		179	710	279	355	Request for Continued Examination (RCE)		Other fee (specify)						*Reduced by Basic Filing Fee Paid						SUBTOTAL (3)					(\$)
Large Entity Fee	Small Entity Fee	Fee Description	Fee Paid																																																																																																																																																																																						
105	130	205	65	Surcharge- late filing fee or oath																																																																																																																																																																																					
127	50	227	25	Surcharge- late provisional filing fee or cover sheet																																																																																																																																																																																					
139	130	139	130	Non-English specification																																																																																																																																																																																					
147	2,520	147	2,520	For filing a request for reexamination																																																																																																																																																																																					
112	920*	112	920*	Requesting publication of SIR prior to Examiner action																																																																																																																																																																																					
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action																																																																																																																																																																																					
115	110	215	55	Extension for reply within first month																																																																																																																																																																																					
116	390	216	195	Extension for reply within second month																																																																																																																																																																																					
117	890	217	445	Extension for reply within third month																																																																																																																																																																																					
118	1,390	218	695	Extension for reply within fourth month																																																																																																																																																																																					
128	1,890	228	945	Extension for reply within fifth month																																																																																																																																																																																					
119	310	219	155	Notice of Appeal																																																																																																																																																																																					
120	310	220	155	Filing a brief in support of an appeal																																																																																																																																																																																					
121	270	221	135	Requesting for oral hearing																																																																																																																																																																																					
138	1,510	138	1,510	Petition to institute a public use proceeding																																																																																																																																																																																					
140	110	240	55	Petition to revive - unavoidable																																																																																																																																																																																					
141	1,240	241	620	Petition to revive - unintentional																																																																																																																																																																																					
142	1,240	242	620	Utility issue fee (or reissue)																																																																																																																																																																																					
143	440	243	220	Design issue fee																																																																																																																																																																																					
144	600	224	300	Plant issue fee																																																																																																																																																																																					
122	130	122	130	Petitions to the Commissioner																																																																																																																																																																																					
123	50	123	50	Petitions related to provisional applications																																																																																																																																																																																					
126	240	126	240	Submission of Information Disclosure Stmt																																																																																																																																																																																					
581	40	581	40	Recording each patent assignment per property (times number of properties)																																																																																																																																																																																					
146	710	246	355	Filing a submission after final rejection (37 CFR § 1.129(a))																																																																																																																																																																																					
149	710	249	355	For each additional invention to be examined (37 CFR § 1.129(b))																																																																																																																																																																																					
179	710	279	355	Request for Continued Examination (RCE)																																																																																																																																																																																					
Other fee (specify)																																																																																																																																																																																									
*Reduced by Basic Filing Fee Paid																																																																																																																																																																																									
SUBTOTAL (3)					(\$)																																																																																																																																																																																				
<p><b>FEE CALCULATION</b></p> <p>1. BASIC FILING FEE</p> <table border="1"><thead><tr><th>Large Entity Fee</th><th>Small Entity Fee</th><th>Fee Description</th><th>Fee Paid</th></tr></thead><tbody><tr><td>101</td><td>710</td><td>201</td><td>355</td><td>Utility filing fee</td><td>355</td></tr><tr><td>106</td><td>320</td><td>206</td><td>160</td><td>Designing filing fee</td><td></td></tr><tr><td>107</td><td>490</td><td>207</td><td>245</td><td>Plant filing fee</td><td></td></tr><tr><td>108</td><td>710</td><td>208</td><td>355</td><td>Reissue filing fee</td><td></td></tr><tr><td>114</td><td>150</td><td>214</td><td>75</td><td>Provisional filing fee</td><td></td></tr><tr><td colspan="5">SUBTOTAL (1)</td><td>(\$)</td></tr></tbody></table> <p>2. EXTRA CLAIM FEES</p> <table border="1"><thead><tr><th>Total Claims</th><th>Extra Claims</th><th>Fee form below</th><th>Fee Paid</th></tr></thead><tbody><tr><td>24</td><td>20** = 4</td><td>X 9</td><td>= 36</td></tr><tr><td>Independent Claims</td><td>2</td><td>3** = 0</td><td>X =</td></tr><tr><td>Multiple Dependent</td><td></td><td></td><td></td></tr></tbody></table> <p>**or number previously paid, if greater, For Reissues, see below</p> <table border="1"><thead><tr><th>Large Entity Fee</th><th>Small Entity Fee</th><th>Fee Description</th></tr></thead><tbody><tr><td>103</td><td>18</td><td>203</td><td>9</td><td>Claims in excess of 20</td></tr><tr><td>102</td><td>80</td><td>202</td><td>40</td><td>Independent claims in excess of 3</td></tr><tr><td>104</td><td>270</td><td>204</td><td>135</td><td>Multiple dependent claim, if not paid</td></tr><tr><td>109</td><td>80</td><td>209</td><td>40</td><td>**Reissue independent claims over original patent</td></tr><tr><td>110</td><td>18</td><td>210</td><td>9</td><td>**Reissue claims in excess of 20 and over original patent</td></tr><tr><td colspan="5">SUBTOTAL (2)</td><td>(\$)</td></tr></tbody></table>	Large Entity Fee	Small Entity Fee	Fee Description	Fee Paid	101	710	201	355	Utility filing fee	355	106	320	206	160	Designing filing fee		107	490	207	245	Plant filing fee		108	710	208	355	Reissue filing fee		114	150	214	75	Provisional filing fee		SUBTOTAL (1)					(\$)	Total Claims	Extra Claims	Fee form below	Fee Paid	24	20** = 4	X 9	= 36	Independent Claims	2	3** = 0	X =	Multiple Dependent				Large Entity Fee	Small Entity Fee	Fee Description	103	18	203	9	Claims in excess of 20	102	80	202	40	Independent claims in excess of 3	104	270	204	135	Multiple dependent claim, if not paid	109	80	209	40	**Reissue independent claims over original patent	110	18	210	9	**Reissue claims in excess of 20 and over original patent	SUBTOTAL (2)					(\$)																																																																																															
Large Entity Fee	Small Entity Fee	Fee Description	Fee Paid																																																																																																																																																																																						
101	710	201	355	Utility filing fee	355																																																																																																																																																																																				
106	320	206	160	Designing filing fee																																																																																																																																																																																					
107	490	207	245	Plant filing fee																																																																																																																																																																																					
108	710	208	355	Reissue filing fee																																																																																																																																																																																					
114	150	214	75	Provisional filing fee																																																																																																																																																																																					
SUBTOTAL (1)					(\$)																																																																																																																																																																																				
Total Claims	Extra Claims	Fee form below	Fee Paid																																																																																																																																																																																						
24	20** = 4	X 9	= 36																																																																																																																																																																																						
Independent Claims	2	3** = 0	X =																																																																																																																																																																																						
Multiple Dependent																																																																																																																																																																																									
Large Entity Fee	Small Entity Fee	Fee Description																																																																																																																																																																																							
103	18	203	9	Claims in excess of 20																																																																																																																																																																																					
102	80	202	40	Independent claims in excess of 3																																																																																																																																																																																					
104	270	204	135	Multiple dependent claim, if not paid																																																																																																																																																																																					
109	80	209	40	**Reissue independent claims over original patent																																																																																																																																																																																					
110	18	210	9	**Reissue claims in excess of 20 and over original patent																																																																																																																																																																																					
SUBTOTAL (2)					(\$)																																																																																																																																																																																				

SUBMITTED BY		Complete (if applicable)	
Name (Print/Type)	Stephen R. May	Registration No (Attorney/Agent)	29,255
Signature	<i>Stephen R. May</i>	Telephone	(509) 375-2387
		Date	Jan 26, 2001

SEND TO Assistant Commissioner for Patents, Washington, DC 20531

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
 )  
Richard A. Craig and )  
Anthony J. Peurrung )  
 )  
 )  
For: METHOD AND APPARATUS ) Our Ref. No: E-1825 CIP  
FOR THE DETECTION OF )  
HYDROGENOUS MATERIALS ) Date: January 24, 2001



## CERTIFICATE OF MAILING

Box PATENT APPLICATION  
Commissioner of Patents and Trademarks  
Washington, DC 20231

Dear Sir:

The undersigned hereby certifies that the attached:

- [ x ] Patent Application of 32 pages, and
- [ x ] Drawings of 24 Sheets
- [ x ] Fee Transmittal (2 ea.)
- [ x ] Assignment / Cvr. Sheet
- [ x ] Combined Declaration and Power of Attorney
- [ ] Information Disclosure
- [ ] with attachments

are being deposited with the United States Postal Service as:

[ ] First Class Mail

[ x ] Express Mail - Label #EE797446645US

in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231, on the date set forth below.

Janice K. Laybourn  
Signature

1/26/2001  
Date Deposited

Janice K. Laybourn K1-53  
Intellectual Property Services  
Battelle Memorial Institute  
Pacific Northwest Laboratories  
P.O. Box 999  
Richland, WA 99352  
(509) 375-2655